

SMITHSONIAN INSTITUTION
MAY 20 1947
NATIONAL MUSEUM

PROCEEDINGS
OF
BIOLOGICAL SOCIETY OF WASHINGTON

THE TEXAN SUBSPECIES OF THE TREEFROG,
HYLA VERSICOLOR

BY HOBART M. SMITH and BRYCE C. BROWN

Two Texan subspecies of *Hyla versicolor* have generally been recognized for a good many years. Not all authors have agreed, however, upon their definition and range. Our experience bears out the perhaps most common view which admits of a western subspecies (here called the Texan treefrog) restricted to the Balcones escarpment and its environs and an eastern subspecies (here called the Mississippi treefrog) widely distributed east of the escarpment area.

The Texan subspecies may be diagnosed as follows: rear of thigh light (orange in life), with fine white flecks, entirely lacking dark marks except at extreme medial border; fingers not or only barely perceptibly webbed; skin smooth; maximum snout-vent length lesser, 43 mm. in males, 48 mm. in females (*vide* Wright and Wright, Handbook of Frogs and Toads, 1942); song different, a longer, lower trill. We have taken these treefrogs at numerous localities in Atacosa, Bastrop, Hays and Travis Counties.

The Mississippi subspecies, on the other hand, possesses the following characters: rear of thigh extensively dark marked, the dark forming a network which surrounds more or less orange (light in preservative) spots of medium size (size of digit pad); fingers markedly webbed, especially the outer and middle pairs; skin more rugose; maximum snout-vent length greater, 60 mm. in females and 51 mm. in males according to Wright and Wright; song different, a shorter, louder, more nasal trill. The roughness of the skin is variable. We have examined specimens of this subspecies from numerous localities including a number from Austin, Brazos, Dallas, Houston, Jasper and Leon Counties. Many other records in the literature indicate that the race blankets the entire eastern quarter of the state.

The scientific names for these well established races have not, apparently, been properly chosen. The eastern subspecies has, generally, been taken as *Hyla v. versicolor*, the western as *H. v. chrysoscelis*. Actually the type locality of the latter is Dallas, Texas, where only the eastern race is to be expected. Furthermore, Cope describes a number of features—black marks encircling medium-sized orange light spots on rear of thigh, large size, and webs on fingers, all of which point definitely to the eastern race. The name *chrysoscelis*, can therefore not be applied to the Texan subspecies, which we name:

*Hyla versicolor sandersi*¹ subsp. nov.

Holotype.—U. S. Nat. Mus. Coll. No. 123978, taken 8 miles southwest of Somerset, Atascosa County, Texas, on April 27, 1946, by Mr. A. J. Kirn.

Paratypes.—B.C.B.² Nos. 381-388 collected May 2, 1942, 12 miles northwest of San Marcos, Hays County, Texas, by Bryce C. Brown; B.C.B. Nos. 1857-60 collected March 31, 1946, 3 miles west of McDade, Bastrop County, Texas, by Bryce C. Brown; B.C.B. Nos. 1896-99 collected April 3, 1942 in northwest Austin, Travis County, Texas, by B. C. Brown; B.C.B. No. 1900 collected on May 2, 1942 ten miles northwest of San Marcos, Hays County, Texas, by B. C. Brown; B.C.B. Nos. 3534-44 collected September 2, 1946, 8 miles southwest of Somerset, Atascosa County, Texas, by A. J. Kirn; T.C.W.³ No. 1911-22 collected April 28, 1946, 8 miles southwest of Somerset, Atascosa County, Texas, by A. J. Kirn.

Diagnosis.—As stated above, 2nd paragraph.

Description of type.—Head short, broader than long; snout bluntly pointed in dorsal profile; canthus rostralis rounded; tympanum slightly larger than dilated pad of finger, directly behind eye; vomerine teeth on tubercles, projecting just behind a line connecting the internal nares; tongue nearly orbicular in outline, slightly notched behind. Body moderate, waist narrow. Limbs moderate, heel of hind limb reaching forward to eye. Disks on fingers and toes well developed, broad; fingers without webs but toes moderately webbed. Terminal phalanx of toes 2, 3, 4, and 5 free, and terminal and penultimate phalanges on first toe free.

Dorsal integument finely granular, ventral surface of thigh and belly coarsely granular, skin elsewhere similar to dorsal integument.

Color above brownish gray with a very dark brown pattern; a large irregular dark brown cross and smaller irregular dark markings on back; dark bordered light spot below each eye; each upper eyelid with a dark bar; a dark bar from eye through nostril to tip of snout; area from eye through tympanum to insertion of arm with a dark mottled band; limbs dark cross barred; groin and concealed portions of legs bright orange; rear of femur with scattered white spots on orange, white spots becoming outlined with black only at extreme medial border; color below white, the throat suffused with dark.

Measurements of the type specimen are: total length 40.1 mm., anus to knee 20.4 mm., knee to heel 19.2 mm., heel to tip of 4th toe 27.8 mm., intertympanic width 12.8 mm., interorbital space 7.7 mm., greatest width of head 13.7 mm., length of head from posterior edge of tympanum to tip of snout 12.9 mm.

Range.—The Balcones escarpment and its vicinity in central Texas, south at least to Atascosa County, east to Bastrop County, north to Travis County and no doubt to McLennan County. Occurrence outside of the state is highly improbable.

¹Named for Mr. and Mrs. Ottys Sanders of Dallas, Texas, who kindly provided topotypes of *H. v. chrysoscelis* and who have long been ardent students of Texan amphibiology.

²B.C.B.—Bryce C. Brown Collection, College Station, Texas.

³T.C.W.—Texas Cooperative Wildlife Collection, College Station, Texas.

Remarks.—Occasional specimens from Brazos County and Leon County have the rear surface of the thighs light-colored and with very little dark marking. These variants may well be interpreted as indicating a somewhat intermediate population, although there is no question that they far more closely approach the typical eastern than the western race.

The name for the Mississippi race is not so easily established. We regard, however, that the lower Mississippi Valley and adjacent western lowlands are inhabited by specimens fairly uniformly different from northern specimens in the character of the pattern on the rear surface of the thigh. The dark color forms a network enclosing circular light areas in the Mississippi race, but tends to be more open in northern specimens. It seems reasonable therefore to allocate the name *H. versicolor chrysoscelis* to the Mississippi subspecies. It is

Hyla versicolor chrysoscelis Cope

Hyla femoralis chrysoscelis Cope, Bull. U. S. Nat. Mus. No. 17, 1880, p. 29.

Type locality.—Dallas, Texas.

Type.—U. S. Nat. Mus., now lost.

Diagnosis.—Like *H. v. versicolor* except rear surface of thigh more extensively dark marked, leaving only isolated, circular light areas of moderate size; differs from *H. v. sandersi* as stated in paragraph 3 of this paper.

Range.—Lower Mississippi Valley west through eastern Texas to about Leon and Austin counties.

University of Illinois, Urbana, Illinois.

College Station, Texas.

